



the CARRIER.....

Published Monthly by the Mount Diablo Amateur Radio Club

MDARC FIELD DAY CALL W6CX; 2M REPEATER W6CX/R 220 REPEATER W6CX/R MEMORIAL CALL SIGN W6LGW

Volume XXX

September 1982

No. 9

Meeting Notice

This month's meeting will be held at our regular meeting place. Grace Presbyterian Church, 2100 Tice Valley Blvd., Walnut Creek, Friday Sept. 17, 8PM

This month's speaker is Ken Keeler, N6RO, World Class contester, will tell us about the CAL QSO party and other interesting related to high performance ham radio

The CAL QSO party is a semi field day type of event which takes place the first weekend of October each year and is sponsored by the NCCC, Northern California Contest Club. This event has grown rapidly in popularity with hams everywhere the last few years and is a super fun operating event.

Ken Keeler, "Radio Oakley", whose multi-multi contest station is located on Sellers Avenue in Eastern Contra Costa County is no stranger to the MDARC. In January this year he visited us with Gary Caldwell, WA6VEF and introduced us to "Contesting-It's Fun".

The objective of the Contest is to get all 58 California Counties on the air, and then to have hams everywhere work as many counties and contacts as possible. You can go portable - Field Day style or stay home and have the creature comforts.

TRY IT _ YOU'LL LIKE IT!!!

CLUB CALENDAR

Sept. 17 MDARC General Club Meeting
Sept. 20 MDARC Board Meeting 8:00 PM
County OES Bldg., 50 Glacier Dr., Martinez. Everyone Welcome

Sept. 17 MDARC General Club Meeting
Sept. 19 Walnut Festival
0830 Tootrace, Heather Farms Park, Walnut Creek
0900 - 1300 or later - Parade assembly
1200 - 1500 Parade, Main St. Walnut Creek.

Oct. 2 "Battle of the Bands" Concord
Oct. 22 Wayne Green Meeting

Nets

"Ya all check in now ya Hear!"
Tech Forum/Swap NET
Thursdays 7:30 P.M. 147.66/06

Contra Costa Emergency NET
Thursdays 8:30 P.M., 146.43 MHz simp.

Parky NET
Every Night 3895 +/- QRM 10 P.M.

DARC NET
Thursdays 7PM on 146.54 MHZ

COCORA NET
Mondays 7:35 PM on 147.135/735

EDITOR: Doug Smith, WA6GON P.O. Box 23222, Pleasant Hill, Calif. 94523 0222

PRESIDENT.....	KT6X	Dick Brown	4125 Sacramento St., Concord CA	94521 687-9048
VICE-PRESIDENT.....	WB6TEE	Don Peattie	2417 Lomond Ln. Walnut Creek CA	94598 935-2636
SECRETARY.....	N6EJU	Dee Koester	438 Diablo Court, Martinez, CA	94553 228-8727
TREASURER.....	KA6IZI	Nancy Hodgson	120 Summit Road Walnut Creek, CA	94598 933-8716
EMERGENCY COORDINATOR..	KA6IVF	Jim House	1919 Ygnacio Valley #49, Walnut Creek	939-8965
BOARD MEMBER.....	K6XC	Ron Luttringer	440 Diablo Court, Martinez, CA	94553 229-3987
BOARD MEMBER.....	N6EEQ	Don Bertrand	3515 Honeysuckle Way, Concord	94518

This edition is not copywrited. It is OK to quote from us, provided credit is given. Thank You!

Next Board Meeting at: C.C. County O.E.S. Building, 50 Glacier Dr., Martinez, Sept. 20, 1982

DEADLINE FOR THE NEXT ISSUE: Articles, Classified Ads, etc. by Sept. 27, 1982

MDARC Board Meeting

August 20, 1982

The meeting was called to order at 8:05 by our President Dick Brown, KT6X and again was very efficiently handled.

UPGRADES were congratulated and visitors welcomed with a hearty round of applause.

M.M.S.P. that the minutes were approved as printed in the CARRIER

UNFINISHED BUSINESS Announcement was made of the 1982 Pacific Division ARRL Convention, October 8, 9 and 10 in Santa Cruz.

VICE PRESIDENT Don WB6TEE, announced that our September meeting would have Ken, N6RO Keeler as its speaker.

TREASURER Nancy KA6IZI, reports that we have \$1,287.02 in savings and \$1,255.41 in checking.

AWARDS AND JACKET CHAIRMAN Dick KA6JGP has resigned as awards chairman because of other pressing matters.

DOOR PRIZE CHAIRMAN Val KD6KV, said sales for the evening were fantastic.

EDUCATION CHAIRMAN Rick, NA6Q announced that fall classes will begin September 21 at College Park High School. Time 7PM. He has need for Theory Teachers.

WAYNE GREEN MEETING for October will be at the Willow Pass Recreation Center. There is seating for 350 people. A dinner for Club members and their guests only will be held at the Sheraton Inn, Concord preceding the meeting. Cocktails will be at 5 PM with dinner at 6 O'clock. The cost will be \$14.50 per person.

MEMBERSHIP CHAIRMAN Frank, N6GQ reports that we have 247 members to date.

PUBLIC SERVICE CHAIRMAN Joe WA6DQN informed that the Walnut Festival will be September 19. There will be a foot race in the morning at 8:30. Parade starts at noon. Operators needed for both. Some-time in October will be Battle of the Bands.

TVI CHAIRMAN Phil WA6SEU reports only 1 TVI problem.

REPEATER Dick KT6X said that new repeater will be going up on Rocky Ridge tomorrow August 21.

PRINTER Doug, W6KLM put out a request for articles or news items about Club members.

PARKY NET Parky K6IMV, reports that about 14 to 18 have been checking in each eve.

EXPLORER SCOUTS it was announced that there would be a meeting in about 2 weeks.

"DOC" HUMPHRY gave us a short talk on jamming and ways to correct or attempt to correct the problem.

After a short break for coffee and doughnuts Len Lansdowne, W6FKF, both entertained and informed us with a talk on "Ham Radio Past and Present". very well done. Thank You Len.

M.M.S.P. that the MDARC go on record as standing behind and supporting the WR6AEE repeater in their fight against jamming.

Meeting adjourned at 10:15 PM

Respectfully Submitted Dee Koester Sec.

WAYNE GREEN

THE WAYNE GREEN CAPER

We are still "on" for Wayne Green to visit the MDARC on Friday October 22, 1982. Wayne, for those who may not know, is the Editor and Publisher of 73 Magazine, and various other publications related to RTTY Computers, etc, and is probably the single individual with the greatest visibility in the hobby.

We are planning an Inter-Club event with all the other Northern California Ham Clubs invited - some 33 so far, to hear Wayne speak to us at the Willow Pass Community Center in Concord. Other controversial types, i.e. Dick Bash, are also invited so we should have a great entertainment.

We are also having Cocktails and dinner with Wayne prior to the program, and at the Concord Sheraton Inn, exclusively for MDARC members and their guests.

Admission to each of these events is by ticket only. Bound in this month's issue of THE CARRIER are applications for each event. I suggest you get in early for both.

W6EEN DON

Renewing

Dick Brown, KT6X, MDARC President, Joseph Jacksa, W6CSV, and H.T. Payne, KB6WU make-up the latest crew to subscribe to QST (ARRL) through the Club. For each subscription the Club earns \$2.00. When you receive your notice from ARRL indicating renewal time is near make checks payable to Mt. Diablo Amateur Radio Club and mail them with the application card to me or bring them in at the monthly meeting.

73 Nancy KA6IZI

The President's Corner....

If you missed last month's meeting, you missed a very important message from "Doc" Humphrey, WA6QUS, on the subject of obtaining Government support to control UHF jamming. Elsewhere in this issue you will find the addresses of your representatives and an outline on the thoughts that you should put in a letter to them. It will cost you very little. Give it a try. If we all do it, it will have some affect. Jay KT6Y and myself will be meeting with the Club Presidents and Repeater Trustees in this area to examine additional approaches.

Dick Squires, KA6JGP, has had to resign his position of Prize Chairman. How about you filling in? It's easy. It involves selecting those individuals in the Club who served the Club well in 1982 and give them a little recognition at the Christmas party. You will have help if you want it.

We were advised by letter at the beginning of September that College Park High School will have to charge us for the use of the class rooms for our Ham classes this year. Since we advertised that our classes are free, Rick and the Club have been placed in a difficult position. We will make an effort to change this decision but may have to ask for donations to cover the cost.

Dick KT6X

MDARC General Meeting

August 23, 1982

The meeting was called to order by our President Dick, KT6X.

Board Members present were: Don, WB6TEE, Ron K6XC, Dee N6EJU, Don, N6EBQ, Jim KA6IVF and Nancy KA6IZI.

Members present were: Joe WA6DQN, Bob KA6LSL and Carolyn KA6LSK.

M.M.S.P. that minutes be approved as printed in the CARRIER.

INTERFERENCE PLAN: Discussion on ways to encourage ARRL to take definite stand on the problem of interference.

M.M.S.P. that the expenses for the ARRL Conference in October to be picked up by the Club and not to exceed \$25.00.

REPEATER Dick, KT6X reported that the new 2 meter machine went up on Saturday, however it still has a few bugs that will have to be worked out. Dick also suggested the need for having a steering committee at least monthly. Board agreed. Motion was made that a letter of thanks be written to Paul and placed in CARRIER thanking him for his work on repeaters.

M.M.S.P. that we have more than four steering committee meetings per year.

DIRECTORY: more proof reading necessary

VICE-PRESIDENT: Don, WB6TEE announced Ken Keeler, N6RO as our September speaker.

SECRETARY: letter from Loren Young, WB6BZQ requesting copy of by laws to be sent to him was read. Board agreed to do so.

JOHN ALDRIDGE, K6DEJ is improving but still in serious condition. A get well card to be circulated at next General Meeting.

TREASURER: Nancy, KA6IZI reports we have \$1,255.41 in checking, \$2,444.75 in savings. The treasury should have a surplus at the end of the year.

DOOR PRIZE: \$86.00 was taken in at the last meeting making a total of \$110.76.

EMERGENCY COORDINATOR: Jim, KA6IVF said that an article will be placed in the CARRIER explaining RACES and ARES, their function and participants.

RED CROSS: Don, N6EEQ gave an explanation of the operation of the Red Cross. He also informed the Board that Bob Washa WBØYRD will be standing in for him during his two month vacation.

RON E6XC reports that the Ham of Year info has been sent in. Also nominating committee hard at work.

AWARDS CHAIRMAN: Dick Squires has asked to be relieved of his duties. Any interested in the position please call Dick or any of the Board members.

MEMBERSHIP: is now at 247

PUBLIC SERVICE CHAIRMAN: Joe WA6DQN discussed the Walnut Festival and in October, the Battle of the Bands.

SOCIAL CHAIRMAN: Carolyn, KA6LSK is looking for volunteers to help with the Christmas Party. It's a fun project. so lets help.

M.M.S.P. that a sample letter be placed in the CARRIER in our letter writing campaign against jamming. Those that bring letters will get 1 free ticket for prize drawing.

Meeting adjourned at 9:55

Respectfully submitted

Dee Koester N6EJU

Secretary

THANKS

Dear Paul WB6DHH,

The Board and the members of the MDARC wish to thank you for the work you have done on the Club Repeater. We know that the time spent is time taken from your family therefore we wish to also thank them.

Volunteer work never gets its due appreciation but it pays extremely well. HI HI

Thanks again Paul, keep up the good work.

Members of MDARC and RRRG

Repeater News

by Jay Caldis, KT6Y

On August 9, 1982 the Repeater Group met to discuss upcoming events and business. Again there were only a few members present. This means that only a few are deciding what occurs for many. There were two visitors at the meeting who then became members. Guy Corynen KE6BS who works for the Lawrence Rad Lab. Jack West NA6L retired research chemist for Dow Chemical. John Montagh KA6BSN was not present and requested membership via mail. He presented a very nice letter and documentation as to his licensing and occupation. John is a supervisor for Chevron and a Reserve Lt. for Search and Rescue. The Club voted to accept all three applicants into the repeater. WELCOME ABOARD.

The dues for the fourth quarter were voted to remain the same. The new repeater should go up on the hill the week of the 15th of August if a truck can be located to haul it up. If it is not up as this article comes out you will know that no truck was found. The old repeater will be rebuilt with an Auto-patch and touch tone codes. The 220 machine now has two new antennas which are working very well. It was discussed that the club obtain a cavity for the 220 machine to improve the inter mod.

It is now official. The Rocky Ridge Repeater Group of the Mount Diablo Amateur Radio Club has a sanction from NARC for the repeater. As far as I am concerned it always did but we now have paper saying we are number 34.

There is not too much to report other than the new repeater is going up and will probably have a shorter timer than the present one. Something in the order of a minute and a half (1½). So you long winded guys take a breath once in a while and let the machine cycle. Again I thank Paul Parker WB6DHH for all his work on the repeaters. He is doing it all alone. I am sure he would accept help if it were to be offered.

See you on the repeater
Jay D. Caldis KT6Y Trustee

Public Affairs

The weekend of Aug. 27-28-29 saw a gang of MDARC members and friends setting up and operating a portable Ham Station on the Montgomery Wards parking lot. in another experiment aimed at generating interest in the Fall Ham classes.

A six element monobander on 15 meters at 85' was a clear attention getter to traffic on 680 and on Monument Boulevard resulting in a steady flow of interested persons at the operating station. N6DTU, Guy Gustovson, was chief operator and using the beam and various wires the station was on the air almost continuously from late Friday afternoon until about 2 PM Sunday including checking into the Parky net.. The rig was Guys FT101, barefoot, powered by a gasoline powered generator. On Saturday 15 meters was open super to Europe and deep Asia, and later to the far East and much good DX was worked. Not so on Sunday though and the crew had to be content with mostly stateside and local contacts. Interest amongst Club members was generated on the W6CX - 2 meter and 220 Mh machines.

Other operators included KT6X, Prez Dick, K6XC Ron, WB6FBI Mike, N6EEQ Don, WA6TEZ Elaine, Dwayne W6LKE, WA6GON Doug and W6NSC Frank. They also passed out literature and answered questions.

Setup, and teardown was performed by WB6FBI, N6DTU Guy, N6EJU Dee, KA60DX Bob and KA6IVG Ryan, and by W6QEN Miles, NI6A Don, W6EEN, Don and WA6TEZ Elaine.

We have had two promotional type operating events this year both aimed at attracting new hams to the hobby and generating interest in our Fall classes. The Safe Boating Week event was not a great success as the traffic attending the Coast Guard Auxiliary event was light. The Wards event was somewhat more successful in this regard and should produce some new converts. Both events showed the importance of pre publicity and getting the publics attention. Perhaps someone will try again next year at, say, the Walnut Festival, where about 10,000 people come through over the weekend. Can you imagine radiograms, a DX station and 10,000 people?

73 Don W6EEN

Special Editorial

HELP

This is September, the month for...
WE WANT ACTION - WE WANT RESULTS...
against Jammers in the San Francisco Bay Area.

In the last 2 issues of the CARRIER there have been letters written by Art Mayhoff, VE2AQV/6 and "Doc" Humphrey, WA6QVS pointing out the severity of the jamming dilemma. It is the unanimous opinion of the board that the MDARC should do everything we can to help, especially having All its Club members write letters to their Congressmen. (Addresses below) Here are a few suggestions for style and content.

1. Keep it simple, and to the point.
2. Mention Amateur radio operators (hams) are an important part of the National Emergency Communication system.
3. State you feel it is essential that the FCC San Francisco Field office request assistance from the FBI and U.S. Attorney in Jamming investigations.
4. Any questions call Don Peatie WB6TEE after 8 P.M. 935-2636

WRITE ONE LETTER EACH TO OUR TWO SENATORS AND YOUR CONGRESSMAN

Senator Alan Cranston
45 Polk Street
San Francisco, CA 94102

Senator S.I. Hayakawa
1390 Market Street
San Francisco, CA 94102

Congressman for Central Contra Cost Co.
7th District

Congressman George Miller
367 Civic Dr.
Pleasant Hill, CA 94523

Alameda (Northern) parts of Contra
Costa Co. 8th District

Congressman Ronald V. Dellums
201 13th Street Room 105
Oakland, CA 94617

All other districts address to House
Office Bldg, Washington, D.C. 20515

Public Service

PUBLIC SERVICE EVENTS

On Sunday, August 8, the Skyline Fifty Kilometer Run was provided communications by members of the East Bay Radio Club with assistance from MDARC members, under the direction of Dave Tyler, N6DRT. It was a cool day and runners made good time; radio operators leapfrogged down the course from Wildcat Canyon to Castro Valley.

The following weekend, Sunday August 15, a MDARC team consisting of Miles Slape, W6QEN and Joe Campbell, KD6DY covered the approach of a group of Cyclists who had pedalled from Alaska, en route to southern California, to Concord. Joe met the bicyclists at Rio Vista and accompanied them down the river and into Concord. Miles picked up the progress reports and alerted the city officials to their impending arrival so that an official welcome could be staged in downtown Concord.

The Walnut Festival in Walnut Creek, which will be the Sunday following our regular meeting, requires numerous operators, first for the morning footrace in Heather Farms Park, and then especially in coordinating the numerous staging areas for various units of the Festival Parade. We could use a few additional operators with 2 meter hand-helds for these events. Call WA6DQN Joe at 283-6560

The annual Concord-Pleasant Hill Band Review, known as the "Battle of the Bands" will take place in Concord on Saturday morning, October 2. Six operators are needed. Sign-up will be held at the September meeting.

Joe WA6DQN

Ponder This.....

What is mixed emotion? That is when you see your 18 year old daughter come home at 4 in the morning with a Gideon bible in her hand.

RACES/ARES

It's about time I did something useful as your newly appointed club EC, so to get started, there's some information about how emergency services works. Presently, there are two nation wide emergency amateur radio groups, the Amateur Radio Emergency Service (ARES) & Radio Amateur Civil Emergency Service (RACES). The organization which became ARES was formed in 1935 under the sponsorship of the ARRL, in response to a need to coordinate various local emergency efforts. It is administered along with the National Traffic System (NTS) under the ARRL Amateur Radio Public Service Corps (ARPSC).

RACES was created by the government in 1951 and has received varying amounts of support from the several government levels depending upon the current interest in Civil Defense. Most amateurs who belong to one group, also are members of the other. This is probably as good a place as any to stress that the only requirement for operators is a valid license - ARRL or MDARC membership is unnecessary.

Now, a look at the people who are leading our local effort. For ARES, Our Section Emergency Co-ordinator is Dwayne Eskeridge, W6LKE. Ron Miller, WB6JGV, who doesn't get enough emergency activity at work, doubles as district EC and RACES coordinator. Among the many hats worn by Rick Kecso NA6Q is that of Central County EC. Bill Van Voorhis, WA6ZFZ is East County EC and Dave Tyler N6DRT is West County EC.

Additionally, we have specific representatives for Red Cross & California Division of Forestry, Don Bertrand, N6EEQ & Larry Kaye, W6CPO respectively. Helping with administrative & recruiting tasks are Dee, N6EJU & Don, WB6TEE. Each of the above individuals have assistants appointed to fill in when they are not available, and to understudy their jobs so that we have more depth in our organization. For example, Bob, WBØYRD, backs up Don at Red Cross, & Jim, KA6IVF, assists Central County EC, Rick.

As Club EC, my job is mainly to get information to the members, and assist them to take what ever part in the program they feel comfortable with.

Among the many things we are doing locally to prepare for disaster is our program to install antennas at, & staff hospitals, fire, police & local government locations with communicators, for use

when the telephone services which most agencies use to communicate are rendered useless. We need many more operators to become familiar with these locations, and the government personnel with which they will be working when needed. At least six per location would give us enough coverage to handle vacations, provide shifts of relief operators, and for the distinct possibility that some of us will not be available to assist due to personal or family problems.

If we can find enough volunteers, we will soon be announcing a new phase of our program which will need the participation of each and every amateur in the county, and will only require that those persons be able to pass traffic from their home QTH to a local county net. In case of an area wide emergency, this program will aid our on duty police, fire & other emergency personnel to stay on their jobs, while being assured that their families are safe or receiving assistance as needed. If you wish to become involved in this or any other of our emergency programs, please contact me, Jim House, KA6IVF, on the air, or by phone 939-8965, or Rick, NA6Q, 689-4998. All interested operators are requested to check in to the ES net on Thursday evenings at 8:30 PM 146.43 MHZ Simplex. Information on current activities is always available at that time, and training is provided to help improve operator efficiency.

As we go to press with this issue of the CARRIER, a local Simulated Emergency Test (SET) is being planned by the Pleasant Hill Police Department. They have requested about 5 operators to assist on the morning of Sept. 1. We'll let you know how it went in next month's issue.

If anyone has a question of general interest about emergency services, please let me know, and I'll try to answer it in a future article. Also we'll try to cover recent area activities and plans.

**** ES NEWS FLASH ****

ARRL - National Communications System
SET Weekend October 16-17, 1982

Word on this just arrived and more information will be available via the ES net on Thursday nights at 8:30. Please keep this weekend - or at least part of it - open for a test of our emergency Preparedness. Our local area will be awarded points for participation,

Westlink Report

SPORADIC INTERFERENCE TO 2 METERS in Falmouth, Massachusetts has gone on for months due to cable T.V. radiation. Mel Briscoe, W1IAY reported that several problem spots appeared and disappeared, disrupting communications near 145.25 MHz. Mel spoke to Massachusetts Cablevision's Chief Engineer Frank MacNamara who is an ex-ham. "MacNamara appears to like the idea of local hams helping to find the leaks," reported Briscoe to The Crossbender. "He is perceptive of the fact that leaks ingress as well as egress." In a unique approach at finding the leaky cables, Mel Briscoe plans to conduct periodic "T" hunts with members of the Falmouth Amateur Radio Association. Mel feels that, "Not only will they be good communications exercises, but we will obtain a synoptic survey of the leak locations." He added that he intends to serve as the clearinghouse, funneling reports to MacNamara. So far at least 2 leakage areas were reported to the company with no action having yet been taken. We will wait to see if Massachusetts Cablevision responds to the Amateurs' help in good faith.

Thanks, The Crossbender.

AMATEUR RADIO WILL BE SHARING THE 450 band with a non-governmental radio location system. The FCC has granted a petition from Del Norte Technology which asked permission for the company to use spread spectrum techniques for radio location purposes on a non-interfering basis with Amateur Radio operations between 420 and 450 MHz. All objections filed by Amateurs were met in the Commission's final decision. They include: spread spectrum only for all of Del Norte's inland operations, mandatory identification every 20 minutes in a manner that can be decoded on a narrow band receiver and signing the letters "DN" in Morse code (not C.W. but some form of narrow band signal discernible on an Amateur receiver).

This is not a defeat for the Amateur Service, since the required use of spread spectrum transmission should keep incidences of interference quite low, while at the same time precluding other services, such as land mobile, from grabbing the 3/4 meter band in the future. The order covers the 48 contiguous states plus Alaska.

Thanks W9JUV

A SUIT TO OVERTURN THE BURBANK TOWER/
ANTENNA/RFI ORDINANCE will be filed shortly. Chicago attorney James O'Connell, W9WU will file the legal action sometime in late August in U.S. District court

for the Northern District of Illinois, and will seek injunctive relief against enforcement of the ordinance as well as a declaratory judgment that the regulation itself is unconstitutional. Challenges of a Constitutional nature will include: the violation of Amateur and C.B. operators' rights to communicate, the attempt of the ordinance to intrude into areas reserved for the Federal government and its violation of due process and equal protection under the law. (The last claim is being made because the regulations only apply to Amateur and citizens' band antenna installations.)

Even with the \$7500 contribution already promised by the ARRL, and other money raised by local groups, more funds are needed to help in this fight. Every dollar is important. In fact, if each Westlink Report subscriber were to send in \$10, enough support would be given to see this case through the first legal hurdles. Westlink will start the ball rolling by sending in a check for \$50 (no we really can't afford it). If protection of your rights to erect an antenna or transmit without being held criminally liable for such things as audio detection in a hi-fi are important to you, send a contribution to: "The Burbank Tower Fund", in care of Roger Borowski, WA9EKA, 6107 West 80th Place, Burbank, IL 60459. If the Burbank ordinance is not struck down, it may very well become a model for other communities against federally licensed radio operators. (WLR 370,371,371)

Thanks W9JUV

VS5HG ON BRUNEI can be found on 14.210 MHz at 1230Z. QSL to Box 980

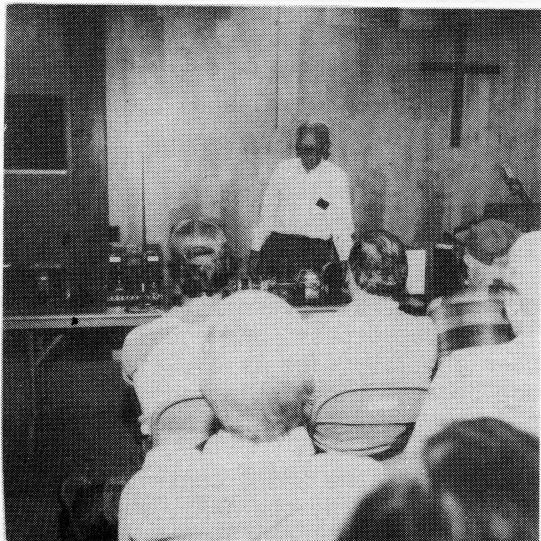
ANTARCTICA is on the air under the call 4KID, operating on 7.006 MHz at 0445Z. QSL's go to Box 88, Moscow. Tnks VE3FRA

CROZET, AS FB8WG only seems to appear during the "Open House Net," which is on 14.332 Mhz Sundays, and the CHC Net, at 14.297 Mhz Saturdays. This is a list operation only.

TJ OR TL WILL BE UP SOON. K4YT has left Nigeria for one of the tso destinations. Listen on 21.300 MHz at 1800Z where he skeds KG3R.

PLANS TO PUT HEARD ISLAND on in early 1983 continue, spearheaded by the VK6 DX Chasers Club" along with 2 U.S. DX Foundations. Those interested in contributing to a Heard Island operation can do so through either IDXF or NCDXF.

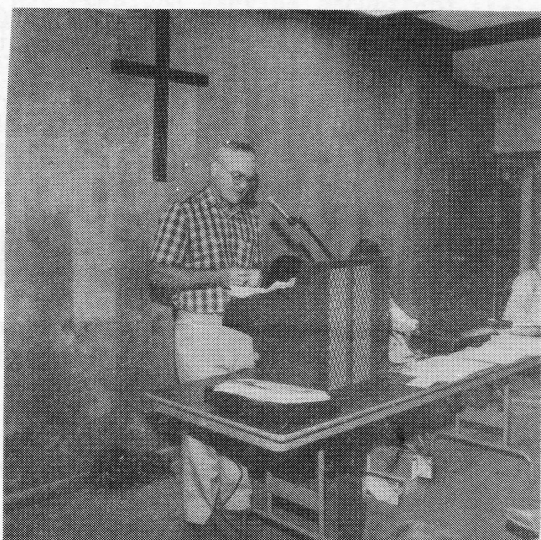
Thanks to The DX Bulletin.



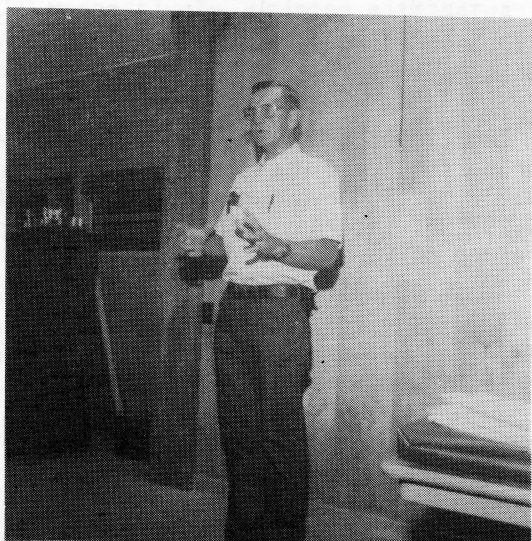
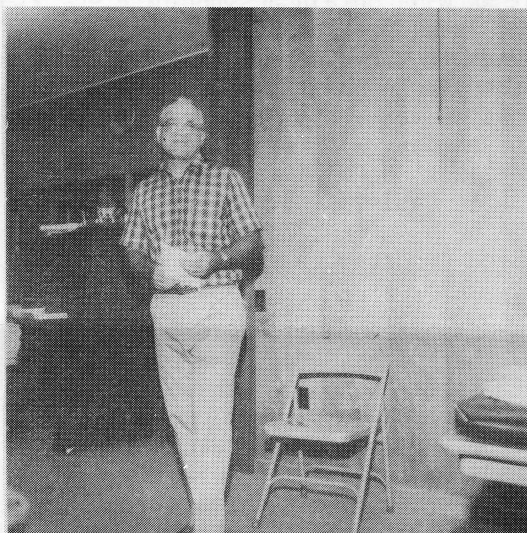
Col. Len Lansdowne, W6FKF



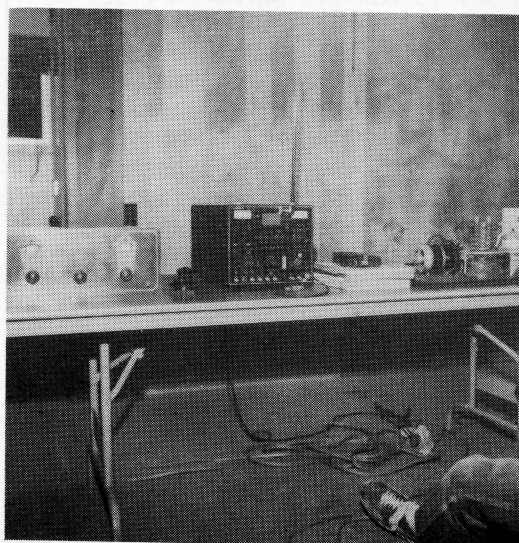
75 years of radio equipment



G.L. "Doc" Humphrey, WA6QVS



Dick Squires, KA6JGP



**MT. DIABLO AMATEUR RADIO CLUB PRESENTS
AN INTER-CLUB MEETING WITH**

NEVER SAY DIE
WAYNE[^] GREEN
W2NSD/1

EDITOR AND PUBLISHER OF 73 MAGAZINE

WHEN:

Friday, October 22, 1982
8:00 p.m. sharp
Doors open 7:30 p.m.

WHERE:

Willow Pass Community Center
Corner of Salvio and E. Olivera Rd.
Concord

TALK-IN:

147.06 mhz
223.74 mhz W6CX-MDARC Repeaters.

TICKETS:

Attendance by ticket only. No tickets will be available at the door. Register early because seating is limited.

Send a \$2.00 donation for each ticket with a self-addressed, stamped envelope to:

Nancy Hodgson — KA6IZI
c/o MDARC
P.O. Box 23222
Pleasant Hill, CA 94523

For information call Nancy Hodgson at
(415) 933-8716.

**DRAWING FOR
DOOR PRIZES!**

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____ No. of tickets _____

We reserve the right to limit individual purchases to a reasonable number.

EXCLUSIVELY FOR MDARC MEMBERS AND THEIR GUESTS

COCKTAILS AND DINNER WITH

NEVER SAY DIE

WAYNE[^] GREEN

W2NSD/1

EDITOR AND PUBLISHER OF 73 MAGAZINE

WHEN:

Friday, October 22, 1982
No-host Cocktails 5:00 p.m.
Dinner 5:45 p.m.

WHERE:

The Sheraton Inn
45 John Glenn Drive
Buchanan Field
Concord

TICKETS:

Send \$14.50 per person to:
Dee Koester, N6EJU
438 Diablo Court
Martinez, CA 94553
Tickets will be held at the door.
Deadline: Tuesday, October 12, 1982.

MENU:

Salad
Beef Brochette
Rice
Vegetable
Roll and Butter
Beverage
Dessert

TICKET ORDER FORM

Name _____ Call _____

Address _____

City _____ State _____ Zip _____

Telephone _____ No. of tickets _____

Guest's name _____ Call _____

THE LOAD LINE

In the discussion that follows I will be referring to vacuum tubes. In this world of transistors and ICs some may ask "why tubes" or even "what is a tube"? Let me say that in some equipment the tube is still "King". I have not seen, nor do I expect to see for many years to come, many transistorized KW rigs, at least not for us HAMS. The concepts presented here apply equally well to a Bipolar Transistor, a F.E.T., or a Tube.

TUBE CONSTANTS

The behavior of any tube under the influence of differing grid and plate voltages does not occur at random. It is a function of the geometric design of the tube. It is this that determines the maximum voltages that can be applied, the maximum plate current, the conditions for plate current cut-off, etc. These tube constants differ from the tube characteristics in that the characteristics are graphical representations of the tube behavior, while the constants are individual numerical tube ratings that vary with the tube's construction. Three primary tube constants are the amplification factor, the AC plate resistance, and the transconductance. These three constants will remain somewhat fixed when normal voltages and current values are used, but with very low values of voltage and current they may vary significantly. Such a case would be running a 6146 with a 100 VDC supply for the plate and screen grid.

CHARACTERISTIC CURVES

The relationships between the voltages applied to a tube and the effects they have on the plate current are illustrated by means of characteristic curves. There are two basic sets of curves used to illustrate the tube's characteristics, the grid family and the plate family. The grid family are called E_c I_b curves. They are constructed upon rectangular coordinates in the second quadrant with E_c on the X axis and I_b on the Y axis. A number of roughly diagonal curves are drawn from the lower left toward the upper right. Each curve will represent some value of constant plate voltage. With some tubes these will enter into the first quadrant with positive values of grid voltage. These E_c I_b curves are called static transfer characteristics.

A second set of characteristic curves, the plate family, are called the E_b - I_b curves. Once more we construct a rectangular coordinate, this time in the first quadrant, with E_b on the X axis and I_b on the Y axis. Again a number of roughly (and I do mean roughly) diagonal curves are drawn, starting in the lower left and tending towards the upper right. This time each curve will represent some value of constant grid voltage. At this point, take a look at the significant difference between the basic shape of the plate family of curves for a triode and those for a pentode in your tube manual. Also note that, in a pentode, each set of curves is only directly used with the screen voltage shown with that set of curves. Like the grid family, the plate family are also called static transfer characteristics.

DYNAMIC CURVES

A significant point I wish to make is that both of these families are called "STATIC". This means, "WITHOUT A PLATE LOAD". Take the grid family as an example. Each curve is for a fixed plate voltage, showing how the plate current changes as the grid voltage is varied. If we now put a resistor in the plate circuit, between the plate of the tube and the B+ connection of the power supply, the tube now has a "plate load". As the grid voltage is now varied the plate current will also change, but not like the grid family of curves indicates. This is because the plate voltage is not fixed. The plate supply voltage is fixed, but we are looking at the voltage at the plate of the tube. It will change due to the voltage drop across the "plate load", caused by the plate current passing through that resistor. To see how the plate current changes with changes in grid voltage we now have to move from curve to curve of the grid family, depending upon the plate voltage, which varies itself with the change in the plate current.

THE LOAD LINE

The way this is done is by using the plate family of curves. What we will do is to construct a load line. With our simple resistor as a load, we will mark a point on the X axis at the plate supply voltage value. This is where the actual plate voltage equals the supply voltage at zero plate current. Next, divide the plate supply voltage by the load resistance and mark that point on the plate

current scale on the Y axis. This is the maximum current flow if the plate voltage was zero and the load resistance was all that limited current flow, (You can't get there with real tubes) Now draw a straight line between these two points. This is what is called the "LOAD LINE". The exact position and slope of this line depends upon the supply voltage and the value of the plate load. The shape of the plate family of curves depends upon the tube type and if it has a screen grid, the value of the screen voltage.

DYNAMIC TRANSFER CHARACTERISTIC

We can now construct a dynamic transfer curve superimposed upon the grid family of curves. This is done by noting the data at each intersection of the load line with the constant grid voltage curves from the plate family of curves we just drew the load line upon. The plate voltage, plate current and grid voltage at each point is then plotted upon the grid family of curves. When all of these points are connected they will form what is called the "DYNAMIC TRANSFER CHARACTERISTIC CURVE".

From these two plots, the load line upon the static plate curves and the dynamic transfer curve upon the static grid curves, we can now determine vast amounts of information about how the tube plus its load will operate. It is very important to note that all of this started with the value of the load. If the load changes then the load line changes. This will change the dynamic transfer curve and this will change, for better or worse, the power output, distortion, bias level, plate dissipation, etc. of the tube.

OTHER LOADS

Thus far we have been working with a basic class "A" voltage amplifier that used a resistor for the plate load. In that high power RF amplifier that I referred to there won't be a resistor for a load but rather some form of a loaded LC tank circuit. The tube still wants to "see" a resistive load and I covered a few months back how the "open circuit" at the ends of a dipole is transformed into the resistive load (RL) that the tube wants to "see".

In this application using the plate supply voltage and RL to determine the position and slope of the load line won't work as it did with the class "A" amplifier stage. The reason for this is that with class "A" we had plate current flow for the full 360 degrees of the input cycle. With class "AB", "B", or "C" power amplifiers the plate current will flow in pulses. How wide each pulse is, in degrees, determines the class of operation. We will now start with the plate supply voltage and the power

level we want to run and from this we will calculate the peak current level of each of those pulses. The RCA Transmitting Tube Manual is one place that shows a number of conversion constants that are used along with the plate family of curves to determine the tube operating conditions. With a linear amplifier we will plot the point of peak plate current at some peak grid voltage. Then the point of zero signal plate current at the plate supply voltage we are using is plotted. The load line will now run between these two points.

In Bill Orr's "Radio Handbook" he also gives some rather good instructions for determining the tube operating conditions. He also demonstrates the use of a third type of characteristic curves, the constant current curves. This time a rectangular coordinate system is constructed in the first and fourth quadrants with plate voltage E_b on the X axis and grid voltage E_c on the Y axis. Both plus and minus values of grid voltage are shown. A number of curves will run across the grid with each representing a value of constant plate current. Once more we will calculate the peak value of plate current (remember that this is not what a meter will indicate directly - we are working with pulses), and plot this at some value of peak grid voltage. As with the E_b I_b curves this point will have some relationship with the sharp turn or "knee" of the curve. Then plot the grid bias voltage at the plate supply voltage used and draw the load line between these two points.

For anyone interested in exactly how all of this is done the two books that I have mentioned are excellent sources.

73

Jim WA2CEP

GUIDELINES TO FOLLOW WHEN USING REPEATERS:

1. Immediately acknowledge a breaking station.
2. Never acknowledge jammers or interference or talk about it.
3. Never conduct any kind of business on the air.
4. Do not use distasteful subject matter and language on the repeater.
5. Do not make unidentified interjections or respond to them.
6. Do not talk to obviously intoxicated people on the repeater.
7. Yield to highest priority traffic.
8. Use simplex whenever possible so as to release the repeater.
9. Do not monopolize the repeater. Pause for breakers frequently.
10. Testing on the repeater is discouraged. It can be done on simplex.

THE SOUTHERN CHAPTER.....

Jerry Boyd WA6CUP

Sorry for the recent lapses in this column, but the Southern Chapter has been somewhat quiet lately. That and the fact that this writer has not been keeping his ear to the ground for Southern Chapter News. I've been busy enough that just the other day Art, W6HQL, ran into me and thought I was new in town. It's terrible to live a hundred yards from someone and not see them in over a month.

In recent columns we invited MDARC members who might be visiting down South to give us a call on the local repeater. Ammend that to any local repeater since W6HQL now has enough two meter rigs that he can individually monitor any two meter repeater in San Diego County and half of those in Northern Mexico.

We recently enjoyed a half day visit with Gentleman Joe, WA6PVA and his oldest sons. Joe was down for a series against the Angels and made it down for some sun and surf. Next time you see him ask about the Rudi's assault on the Bay Bridge at the controls of a Navy S-3 subchaser.

Speaking of visits, the Coronado Clan is anxiously awaiting a visit in mid September from Parky, K6IMV. I've scheduled extra police patrols during his visit in case he stirs up trouble at some of his old stomping grounds. Understand the Navy is going to provide a SPECIAL welcome by bringing in one of Parky's old ships for a day or two. The U.S.S. Monitor.

Marge, N6GTB, XYL of Art W6HQL, is recuperating from a recent visit with the sawbones. Sometimes MDARC member WA6TFS, fireman Jim, is reported to be headed for the knife thanks to a recent on the job knee injury. We wish both a speedy recovery.

Well folks, think you're now up to date on the news from down South. Those planning trips to Mexico are urged to use caution. We "Gringos" are not too welcome south of the border these days following devaluation of the Peso. You can always spend your U.S.dollars in some of our quaint little shops here in Coronado. Until next time

73 Jerry WA6CUP

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Dits & Bits / W5YI Report

HAM TEST CHANGED - Coincides with Bash Seminar

There were fireworks at a recent amateur (tech/general - Element 3) testing session held recently at the Baltimore (Maryland) FCC field office. Probably not coincidentally (although I was not able to get this confirmed by the FCC) the Element 3 test was changed. It was also right after the Bash Amateur Licensing Seminar was held. The Dick Bash seminars prepare amateur operators to pass the Tech-General/Advanced and Extra Class ham exams. They use as study material the exact questions/answers to the tests.

When the attendees of the Bash Tech/General Seminar appeared at the Baltimore FCC office, they were greeted by a new test - one that they had not crammed for. In my view, the Commission wanted to see if they were qualified to upgrade or not. Apparently they were not. Eighty-nine percent of the Bash attendees failed the Tech exam. Seventy percent of the non-Bash applicants passed....a normal percent according to the FCC's Field Operations Bureau. The FCC could easily tell who were Bash seminar students since they used a FCC Form 610 (Application) that was different from the rest of the test takers. One of the questions on the new Tech/General test asks in which direction does a yagi antenna direct most of its radiated energy. Bash attendees (that is all except one) did not know that a yagi radiates the strongest along a path perpendicular to the shortest element (the director). Several thought a yagi radiated from the ends of the elements! According to my information, the test changes were very subtle. That is, there were no major changes, just slightly different questions and values in the math/formula questions.

"CAR 54 WHERE ARE YOU" - A 20 year old mechanic repairing an unmarked police car at Virginia Beach's R.K. Chevrolet caused quite a stir recently! For forty minutes, Anthony S. Munden of Virginia Beach, VA., illegally used the car's police radio to broadcast phoney messages and banter to dispatchers over channels normally used for emergency communications. FCC officials and police officers finally determined where the illegal transmissions were coming from and went to the shop and caught the culprit. Munden was told by Jerry J. Freeman of the Norfolk Virginia FCC field office that he would be fined \$750 for "using a police radio without permission and giving bogus information".

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POLAND MAY SOON RESUME NORMAL AMATEUR radio operation. Ever since the crackdown by the current military regime, Polish amateurs have been silent. Even those clandestine "SP" stations which were widely reported early this year have now disappeared, and there has been practically no news about Ham radio since then (HRR 358). Three weeks ago, however, correspondent Mitch Wolfson, DJ0QN was able to get a short interview at the Friedrichshafen Ham Radio Convention with Wojciech Nietyksza, SP5FM. Woj is Vice President of IARU Region 1, and he had this answer to a question about the chances for early reactivation of Polish activity: "The chances are not very clear at the moment. On the 13th of December (1981) the Amateur Radio activity, strictly speaking the transmitting activity, was suspended, but the Amateur Radio Society PZK was not suspended, and here we see some corridor of light for the future. Maybe there will be some possibility to reactivate the Amateur activity in the future; maybe not the very distant future, because a month ago there was permission obtained to reactivate the A.R.D.F., which is the Amateur Radio Direction Finding Activity, and maybe it will be a good first step." SP5FM also asked us to pass along his regards to all his Amateur friends world-wide.

THE ARRL HAS PLEDGED \$7,500 to assist the Amateur community in Burbank, Ill. to overturn the nation's most restrictive tower/antenna/RFI ordinance. On July 9th, the League's Executive Committee unanimously passed a motion offered by Bill Stevens, W6ZM (Pacific Division) to "...express its wholehearted support for the action being undertaken by the Radio Amateurs of Burbank, Illinois to seek a preliminary injunction in Federal Court against the enforcement of the extremely objectionable ordinance recently enacted in their city, and further, to seek a declaratory judgement, overturning the ordinance."

NOVICE CLASS OPERATORS IN CALIFORNIA will soon be able to apply for call letter license plates. At the request of Tadeuz Kleindienst, KA6IYM, Assemblyman Chet Wray sponsored A.B. 2338 before the California legislature that would give Novices the privilege of having distinctive plates as do other Amateurs now. The regulation denying Novices call letter plates dates back to the time when the license was for one year and was not renewable. The new law, signed by Governor Brown on June 25th will become effective January 1, 1983.

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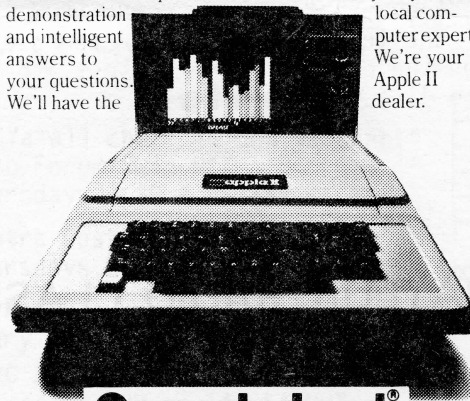
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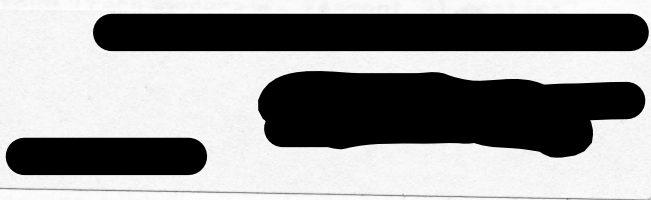
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